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Categorical Human Mind: A Dialectical Daoist Yin-Yang Perspective

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Abstract: Human beings cannot function without the categorical (human) mind. The human mind, via cognition, functions in a both-and manner, affording the dynamic exchange between the categories of person and environment. However, the categorical human mind has never been examined dialectically from a Daoist Psychology perspective. While dialectical thinking is universal both in the East and West, little attention has been paid to the categorical human mind from a Daoist yin and yang approach (i.e., opposite but interconnected). We explore the relationship between the human mind and the envirnoment, as informed by a dialectical Daoist yin-yang perspective. Like the Daoist yin and yang, the unfolding of mind and environment can be understood as passive (yin) and, equally as much, as active (yang). The categorical human mind can influence the environment and experience (i.e., active mind), and also may be influenced itself (i.e., passive mind) by the environment or experience. Both the mind and environment operate across active (yang) and passive (yin) processes that are independent yet interconnected forces which mutually arise (like yin and yang). We discuss this dialectical Daoist yin-yang perspective of mind by focusing on categorical cognition and perception, social totemic cognition, stereotyping, and human development. These examples help to illustrate the both-and processes that underlie the categorical human mind, emphasizing the mind as dialectical (i.e., Daoist yin-yang view); that is, independent while also interdependent and interactive , and featuring both active and passive capacities at the same time. The dialectical Daoist yin-yang view teaches us that human categorical mind is dependent on, as well as independent of, the situation and ecological environment.

Keywords: The yin-yang view; Categorical cognition, Totemic thinking; Daoist psychology; Developmental psychology

1. Introduction

The Dao produced the One.
The One produced the Two.
The Two produced the Three.
The Three produced All Things.
All Things carry Yin and hold to Yang.
Their blended influence brings Harmony
---(Laozi: Chapter 42, Quoted from Wing 1986).

Daoism addresses how everything in the world begins. What did Laozi mean by One? One which is produced by Dao (or the natural course) means the entire universe. Two means the Yin-Yang, and Three means heaven, earth and human, which produce all things (Fei, 1984; Lee, 2003; Lee et al., 2008; Lee & Holt, 2019),

Much research has been done on categorical human mind (see Lee et al., 2013, Pinker, 1997, 2002), demonstrating that categorical thinking is either negative or positive. Rather than an either-or approach, we address categorical human mind dialectically from a Daoist yin and yang perspective (opposite but interconnected forces). First, the human mind functions with both active and passive capacities just like the Daoist yin and yang. While it is passive (e.g., being influenced), sometimes it is very active (creative). Second, the relationship between the categorical human mind and the environment are like the Daoist *yin* and *yang* (i.e., opposite but interconnected forces). On one hand, the categorical human mind is shaped by the sociocultural and ecological environment (i.e., a categorical mind that is malleable and can be influenced) and, as a result, may be seen as passive. On the other hand, research from evolutionary and developmental psychology, indicates that human thinking (e.g., categorization, stereotyping) is also active and creative; a process that affords the mind the ability to impact the sociocultural and ecological environment in which humans live. Simply put, it is not just "the mind being shaped by our environment and experience" (i.e., passive mind) but also "the influence of the mind to shape our environment and experience" (i.e., active mind). Like the Daoist *yin* and *yang*, there is an ebb and flow between mind (human cognition) and environment which is mutually interactive and nonexclusive (i.e., "both-and" not "either/or").

Three important notes are in order. First, the dialectical Daoist yin-yang view (embracing two opposites—both-and) of categorical human mind is much different from much Western dualistic thinking (either-or). For example, the two aspects of Daoist perspective, yin and yang, are different (independent) and also depend on each other (interdependent), emphasizing a holistic view, whereas dualistic views espouse a separate and distinct perspective of mind (and environment). Second, dialectical philosophy is universal (not unique to the East). For example, ancient Greek philosophy and modern Hegelian views (Lee, 2000, 2023) are very dialectical. However, we focus on the dialectical view offered from the Daoist yin-yang. Third, based on this Daoist dialectical yin-yang view, we integrate in contemporary research findings and observations from psychology into the paper. Examples include 1) human visual perception; 2) categorical and totemic minds; 3) stereotyping, EPA theory and evolutionary psychology; 4) developmental psychology.

2. The Daoist Yin-Yang View of Categorical Human Mind in Social Cognitive and Evolutionary Psychology

2.1 Human Visual Perception--An Active and Passive Mind

Like yin and yang, the human mind is both active and passive, as exemplified by human perception. Optical illusions offer a good example of these active and passive processes. When college students take an introductory psychology course, various perceptual illusions are taught to illustrate how our mind can be easily influenced. **Figure 1** illustrates a classical (typical) perceptual illusion (i.e., the Müller-Lyre illusion). Adding arrows to a set of lines gives the illusion that these two lines are not the same (i.e., one is longer and the other shorter).

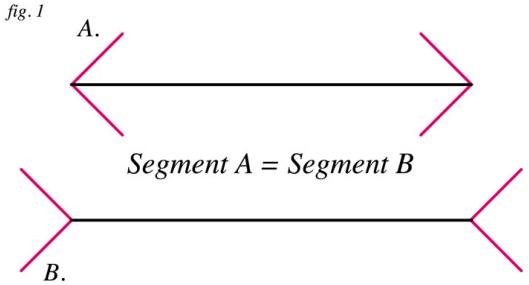

Figure 1 Müller-Lyer Illusion (with "a" as arrow junctions and "b" as fork junctions)

As an active process, when we examine the figure more carefully and ignore the background (i.e.,

contextual) information, we may recognize that those parallel lines are indeed identical and are the same length. In other words, our mind is not always necessarily passive or influenced. What does the example in Figure 1 suggest? Illusions may be misleading phenomena in life. As the result of the illusion, we may have inaccurate perceptions. At first pass, we may misinterpret the figure, seemingly suggesting our mind is passive and malleable. However, upon more careful inspection, if we look at the line and discard arrows and fork junctions, we notice that the line is identical with the middle line. That is, we are also able to accurately perceive the visual image, demonstrating the active processes underlying mind.

In brief, perceptual psychology helps to exemplify that the human mind may engage in passive processes (i.e., the yin) which then result in illusions of perception. At the same time, however, more actively, the mind can perceive these images in an accurate way (i.e., an active mind as the yang). Further, like yang, the context of these illusions produces an impact on our (inaccurate) perception, thereby illustrating the active processes of environment (as yang). However, on the other hand, as yin, if we actively ignore the context, more accurate perceptions arise. Together, this suggests that both are interdependent with one another and not exclusive to each other. The human mind and context are dialectical like the Daoist yin and yang, distinct yet interconnected, just as human perceptual processes involving accuracy and inaccuracy (e.g., illusions) are different but related, like yin and yang.

2.2 Categorical and Totemic Minds: The Daoist Yin-Yang Perspective

The second example of the yin-yang perspective are the **actual objects** in environment (yang) as the core basis of totems and the **worshipping/belief** (yin) of totems. Put differently, yang captures the things-of-the-world (i.e., matter), or totems, while yin refers to our meaningful categorization of those objects. Like our perceptual processes, humans make categorical judgements every day. Originally, our early categorization can be dated back millions of years when our ancestors worshipped totems (Lee & Holt, 2019; Lee et al., 2020). What are totems and totemism?

Scientifically, a totem is a belief regarding certain things (e.g., animals, plants, or objects) that are commonly and sacredly shared and worshipped by a group of people (family, clan, tribe) (Lee et al, 2018). This definition is consistent with scholarly discussion from various fields, including psychology (e.g., Freud, 1913/1950; Rivers, 1909; Wundt, 1912/1916; also see Lee et al., 2013), anthropology (e.g., Boas, 1916; Frazer, 1910; Goldenweiser, 1910; Levi-Strauss, 1962; Morgan, 1877/1974), sociology, and other sciences (Durkheim, 1915/2008; Jones, 2005; Lang, 1905). With respect to totemism, a general review of literature indicates three primary "features of the relations between human beings and the classes of animals, plants or inanimate objects" (Rivers, 1909, p. 156). These are described as follows:

> The first and most important feature is that the class of animals or other objects are definitely connected with a social division, and in the typical form of the institution, this social division is exogamous. Often the division takes its name from the totem, or this may be used as its badge or crest; but these points are less constant and essential. The second feature is the presence of a belief in kinship between the members of the social division and the totem, and in the most typical form there is belief in descent from the totem. The third feature is of a religious nature; in true totemism, the members of the social division show respect to their totem, and by far the most usual method of showing this respect is the prohibition of the totem as an article of food. When these three features are present, we can be confident that we have to do with totemism. (Rivers, 1909, p. 156)

To summarize Rivers' discussion above, totems (and totemism) consist(s) of three major elements: (1) a social element (i.e., the connection of an animal or vegetable species, or an inanimate object, or a class of objects, with a group defined by the society, usually with an exogamous group or clan); (2) a psychological element (i.e., a belief in a relation of kinship between members of the group and the animal, plant, or thing, often associated with the idea that the human group is descended from it), and (3) a ritual element (i.e., a respect for the animal, plant, or thing, usually displayed in a taboo or prohibition on eating the animal or plant, or using the object, except under certain ceremonial conditions). These ideas are also reflected by other scholars (e.g., Levi-Strauss, 1962).

As an essence of human categorical representations,

for over 150 years, much interdisciplinary research has been done on totems and totemism (McLennan, 1869, 1870; Morgan, 1877/1974; also see Boas, 1916; Durkheim, 1915/2008; Frazer, 1910; Freud, 1913/1950; Goldenweiser, 1910; Jones, 2005; Lang, 1905; Lee, 2010, Lee et al., 2013; Levi-Strauss, 1966; Wundt, 1912/1916). Originally, a totem was seen as a belief regarding certain categorical things (e.g., animals, plants, or objects) that are considered sacred and commonly shared and worshipped by a group of people (family, clan, tribe). These characterized primary "features of the relations between human beings and the classes of animals, plants, or inanimate objects [and] constitute[d] the essence of totemism" (Rivers, 1909, p. 156). Today, a totem or totemism still includes a linkage between the natural world (e.g., animals, plants, or objects) with the human world (e.g., humans themselves, social divisions, or categories/kinships). It may also have a religious nature, such as when people of certain groups show respect to their totems (i.e., positive affiliation or evaluative emotion about the natural world). According to Levi-Strauss (1962, 1966), totems are the fundamental ways human beings use to categorize the physical world in order to survive and function. More recently, Bateson (2002) described totemism as "much more like an incorporation or marriage of ideas about the world with ideas of self" (p. 131).

As an active (yang) process, **our ancestors imitated mother nature and saw the natural world (e.g., animals) as their teachers and guards** (Lee et al., 2019). These objects and creatures were given sacred meaning and importance. However, in a similar way, passive (yin) processes could also be seen. For example, members of a tribe or clan (i.e., offspring) simply worship those animals, plants, or natural objects and **followed the ancestral beliefs of their group without questioning them** (i.e., with passive mind). These processes are similarly illustrated in the context of modern belief systems (Lee et al, 2020). For example, founders of modern religions (e.g., Christianity, Buddhism, Islam) displayed the active (yang) processes of thinking and mind (i.e., via the creation of a belief system); however, those followers, after the religion is created, tend toward passivity (i.e., yin) in their thinking and mind, believing what they are told to believe (Lee et al., 2020; Lee & Kanazawa, 2015). Furthermore, in support of the Daoist yin-yang view, these examples illustrate mother nature (or environment) as yin (passive environment to the active mind) and the worshipping or imitation of mother nature (or natural world) as yang (active mind to passive environment). However, at the same time, depending upon how the interactions unfold, mind may be active to (passive) environment (i.e., original ancestral beliefs) both-and environment may be active to (passive) mind (i.e., offspring following ancestral beliefs), further illustrating the underlying independent and interdependent processes (e.g., yin-yang view).

2.3 Categorical Stereotypes, EPA Theory, and Evolutionary Psychology

The third example of the Daoist yin-yang perspective can be seen via modern stereotype research in anthropological and psychological work (e.g., Bruner, 1987; Levi-Strauss, 1962). This literature demonstrates that the processes of the human mind (e.g., categorization, stereotyping) are not just a one-way street (i.e., passive or inaccurate), but are rather bidirectional (i.e., creative and accurate) (see Gardner, 1973, 1983). In social psychology, research on stereotypes and stereotyping has been insightful and fruitful, yet complicated (e.g., Fiske, 1998; Jussim, 2012; Lee et al., 1995, 2013; Lee et al., 2013; Nelson, 2009; Pinker, 1997, 2002; Ryan, 2002; Schneider, 2004). Due to the scope and nature of this paper, our discussion focuses on the cubic EPA theory of stereotypes and stereotyping (Lee, 2011; Lee, Bumgarner, et al., 2007; Lee et al., 1995, 2013; Lee et al., 2014; Lee, Vue, et al., 2007), specifically, as this approach well-exemplifies the Daoist yin-yang view.

2.4 Categorization: EPA Theory.

In EPA theory, three dimensions of stereotypes are identified (see **Figure 2**). "E" represents evaluation or valence (ranging from positive to negative emotion). "P" represents potency or latency of activation or knowledge (ranging from automatic activation to little or no activation). "A" represents accuracy (ranging from accurate to inaccurate). Evaluation (positive-negative), potency (active-inactive), and accuracy (accurate-inaccurate) are not dichotomous, but continuous dimensions (McCauley et al., 1980; Osgood, 1952, 1979). Each dimension is different from one another, theoretically and empirically, but depend on each other, just like yin and yang.

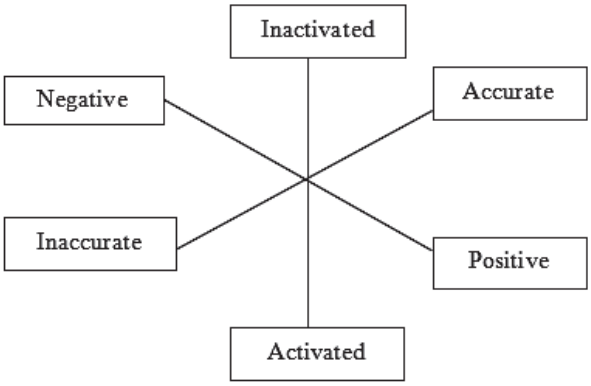

Figure 2 Cubic EPA Model of Stereotypes (i.e., shown as corners of a cube)

The impact of any stereotype or human categorical belief system (e.g., totems, religion) is determined by its combination of evaluation (or valence), potency (knowledge), and accuracy. For example, consider an individual who identifies as a Christian. For the categorical belief of "Christianity," this person may feel more positive toward a devout Christian than a non-Christian individual (i.e., evaluation). They may know much more about the Bible and retrieve more information about the Bible than the non-Christian individual (i.e., potency). Accuracy can be seen in terms of cultural and spiritual correspondence between what they believe and what they experience in reality (i.e., experiential accuracy or truth). Accuracy also occurs behaviorally (i.e., behavioral accuracy), such as Christians reading or using the Bible more often than non-Christians (Funder, 1987; Jussim, 2005; Lee & Jussim, 2010; Lee et al., 1995; Kenny, 1994; Oakes et al., 1994; Pinker, 2002; Triandis, 2009; Triandis & Vassilisou, 1967).

The EPA theory can also be broken down into two dimensions (evaluation and accuracy) to illustrate stereotypes and stereotype processes (see **Figure 3**).

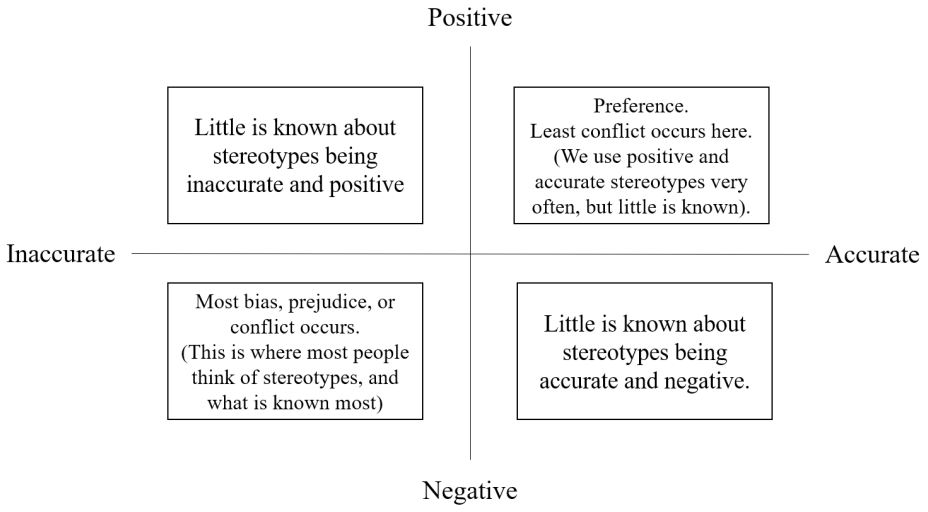

Figure 3 Valence (or Evaluation) and Accuracy of Stereotypes

Whenever we think about stereotypes, we typically mean the bottom-left quadrant (i.e., inaccurate and negative stereotypes). However, according to Lee and colleagues (1995), it is essential that social scientists need to also understand mental representations of social groups in the other three quadrants (Lee, 2011; Lee & Zhao, 2019). This is because stereotypes are not always necessarily negative or inaccurate. Positive and accurate perceptions about individuals in certain groups or categories could help us to understand and appreciate human differences socioculturally and/or biologically (Lee, 1996; Lee et al., 1995). Even negative (but accurate) perceptions of certain individuals may help us to deal with some social problems more realistically and effectively, rather than denying real social problems. Further study is needed into how stereotypes may be positive and accurate (upper-right quadrant) and/or accurate and negative (bottom-right quadrant).

Regardless of evaluation (i.e., the level of positive or negative emotional valence, we have to depend on categorical stereotypes. Our decisions and judgments are made "with finite time and resources" (Pinker, 2002, p. 148) and, as a result, certain kinds of errors can have high costs. We therefore must use some common traits or properties to make some of our decisions or judgments about people and things (i.e.,

based on our conscious or unconscious categorical stereotypes). Categorization is beneficial for our mind to function, given our limited cognitive resources in an environment unlimited in stimuli and information. Put differently, our environment provides us, passively, with a bombardment of stimuli (yin) which, actively, the human mind must make sense of into a coherent whole (yang). The give-and-take between the mind and environment requires both active and passive processes, just like yin and yang. There cannot be one without the other, as they exist in dynamic interdependent processes.

2.5 Human Categorization in Social Cognitive and Evolutionary Psychology—A Reflective and Dialectical Summary

From an evolutionary perspective (e.g., Darwinian theory), our categorical thinking and beliefs, like our daily stereotypes and totems, afford human beings the ability to function efficiently and survive despite our limited resources, finite lifetime, and much uncertainty about the threats and dangers facing our species. Unfortunately, little attention from an evolutionary perspective has focused on the accuracy, valence (or evaluation), and knowledge (or potency), simultaneously, of these categorical beliefs and thinking (Lee, 2011; Lee et al., 1995, 2013; Lee et al., 2013). If stereotypes involve perceptions of certain social categories (Eiser & Stroebe, 1972; Pinker, 1997, 1999, 2002; Tajfel, 1981), evolutionarily, in essence, totems might be the earliest categorical representations of animals, plants, and inanimate objects (Descola, 2013; Durkheim, 1915/2008; Freud, 1913/1950; Lee, 2010, 2014; Levi-Strauss, 1962, 1966; Palmer et al., 2008; Pedersen, 2001; Wundt, 1912/1916). Totems are perhaps the origins of our categorical thinking including stereotypes, our names, and religious or spiritual beliefs (see Lee et al., 2018).

Further, if social representations aim to "make something unfamiliar, or unfamiliarity itself, familiar" (Moscovici, 1984, p. 24; Moscovici, 1973, 1988) via anchoring and classifying ideas or things in relation to everyday categories (p. 29), then totems are excellent examples to make something unfamiliar familiar. If one of the primary functions of stereotypes is to categorize individuals of groups based on certain properties or identities (Lee et al., 1995; Pinker, 1999, 2002; Tajfel, 1981), then stereotypes, totems, and other cultural beliefs are the outcomes of human categorizations and representations (Moscovici, 1984, 1988). Therefore, stereotypes (or stereotyping), totems (or totemic thinking), and other categories are essential for the continued functioning and survival of human beings as a species.

Do we see totems every day in our modern life? Absolutely we do. Traditional totemic vestiges include, for example, our names and religions. However, in addition, a national flag is no different from a totem or a totem pole (see Durkheim, 1915/2008; Lee et al., 2013). How do totems relate to the EPA theory of stereotypes? A recent study (Chan & Lee, 2020), for example, found that an American flag with an eagle is more positive to Americans than to non-Americans (i.e., evaluation). With regards to potency, when seeing their own flag compared to when they see the national flag of other countries (e.g., China or Great Britain), Americans immediately recognize it more easily or effortlessly. Accuracy is reflected when the individual says that the American flag has stars and stripes and is red, white, and blue (i.e., the star-spangled banner), whereas it would inaccurate to say the American flag is yellow color with a moon on it. Thus, categorization (e.g., a national flag serving as a totem) is consistent with the EPA theory and, as discussed below, helps to further illustrate the yin-yang view of mind.

Put simply, the human species cannot function or survive without categorical thinking, such as stereotypes and totems. Consistent with the Daoist yin-yang perspective, the EPA theory provides a useful example of the active (yang) and passive (yin) processes as related to the human categorical mind. We attach emotion or valence to those categories (Evaluation), which become stored as memory (Potency) and, in turn, help us to better understand the world around us (Accuracy). Each dimension is full of yin (passive) and yang (active). Categorizations may range from inaccurate to accurate, as a result of varying familiarity (i.e., no or little familiarity to very familiar) and differing affective states (negative to positive), thereby spanning passive to active. All three are necessary and important, unique processes, as they enable our efficient functioning and continued survival as a species, and are all also both interdependent and mutually arise (like yin and yang).

3. The Daoist Yin-Yang View of Categorical Human Mind in Human Development

3.1 A Developmental Perspective on the Daoist Yin-Yang View

Additional support for the yin-yang perspective on the human mind can be found in developmental psychology (Bronfenbrenner, 1974; Piaget, 1954; Vygotsky, 1962), and is further emphasized by developmental work in behavioral genetics (Sameroff, 2010, 2020). These areas emphasize the dynamic, bidirectional interplay that occurs, over time, between the individual and environment. Accordingly, from this work, cognition can be seen as both neurobiologically-based and culturally-construed (Wellman, 2017); that is, thinking is person-mediated (active) and environmental-moderated (passive).

3.2 Development: Yang (Active) View.

As early as infancy and toddlerhood, there is evidence in support of the constructive influence the mind may have on situations (i.e., active mind). According to Piaget (1954, 1972), children actively make sense of the world around them. They act as little scientists, making observations as they perform experiments on their surrounding environment. This process of knowledge acquisition, in turn, affords the child the ability to actively construct their understanding of reality (Piaget, 1954), emphasizing how the human mind can shape the phenomenological aspect of experience.

Constructivism suggests that, rather than simply taking in information, passively, individuals actively construct knowledge of the surrounding world (Piaget, 1954). People experience the world, Reflect on those experiences, and incorporate these new experiences into their already-existing framework of the world. An illustration of these active processes can be seen in the experience of parental divorce. Siblings within the same home may perceive or interpret the same event (i.e., parental separation) differently, as a result of individual differences (e.g., age, gender, generational cohort), which consequently brings about differing outcomes and experiences (Le Forner, 2020).

3.3 Development: Yin (Passive) View

However, as alluded to, these age-dependent abilities are also culturally-construed, emphasizing how human cognition may also be impacted by external factors (i.e., passive mind). Our sociocultural environment shapes our mind, too (Vygotsky, 1962). Sociocultural Theory posits that our surrounding culture largely shapes our cognitive development because learning is largely a social process. In this way, improvements in cognitive function coincides with interactions with older, more-developed individuals (Vygotsky, 1962).

Although Constructivism suggests that much of cognitive development is an explicitly active process (i.e., reality is actively constructed by the child), passive processes are also seen. As individuals grow older, moving from childhood to adolescence and into adulthood, thinking and cognition are also shaped by the values, ideas, and beliefs of the larger society (i.e., passive mind). Put simply, we become cultured adults (Piaget, 1972). Development is afforded by the dynamic exchange between individual and environmental experiences (Gottlieb, 1991; Piaget, 1954; Sameroff, 2010, 2020).

3.4 Development: Yin-Yang Perspective

The reciprocal interrelations posited by the yin-yang perspective are echoed by Ecological Systems Theory (Bronfenbrenner, 1974). According to Bronfenbrenner (1974), individual development resides at the center of a complex interrelated system that spans across multiple levels, all which inherently include the individual. External influences, like the social environment, impact the individual, but so too does the individual impact their surrounding environment. The mind does not exist outside the environment, nor does the environment stand apart from the mind.

To avoid an overly reductionistic view of human behavior (e.g., cognition), investigations should consider the interdependent, transactional nature of these two systems (individual and environment). Individual and environmental factors, as well as experience itself, contribute to how active an individual can be in shaping reality. These limits, which may or may not be of conscious awareness, impose indirect constraints on the individual. They shape development in ways that the individual cannot actively control, thereby illustrating the passive processes of human cognition. This is akin to the way that culture may shape thinking.

Consider, for example, a young person who grows up in a home, neighborhood, and community that emphasize some sort of extreme beliefs (e.g., a

religious cult). For a variety of reasons, many of which are likely unbeknownst to the individual, that young person may go on to develop attitudes and behaviors that are in line with that culture (i.e., passive processes). The term "enculturation" captures this dynamic. However, conversely, some individuals may go on to challenge these belief systems and, perhaps, fail to adopt the attitudes and behaviors of their predominant culture, exemplifying the possibility of active processes. This example serves to illustrate the dialectical processes at work, the ebb and flow between mind and environment. To influence (active) and to be influenced (passive) are equally possible.

This point is further underscored by behavioral genetics, which is a discipline solely focused on investigating the underlying contributors of phenotypic development (e.g., cognition), including nature (genes, biology) and nurture (environment), as well as their complex interplay (Knopik et al., 2022). Moving beyond an either-or dichotomy, this field recognizes the dynamic interrelations between the individual and environment, suggesting that these factors exert influence on one another both uniquely and interactively in a closely intertwined fashion (Coll et al., 2004; Tabery, 2014). Behavioral genetics provides a framework that recognizes the coactions, transactions, and interactions that underlie systems (Sameroff, 2010, 2020). Similar parallels can be seen in the dance between the mind and culture, an active and passive exchange of interconnectedness between person and context.

3.5 Development and the Yin-Yang View: Active or Passive?

An important question arises: what mechanisms underlie whether active or passive cognitive processes occur? First, recall that active processes originate from the person (i.e., to influence) whereas passive processes originate from the environment (i.e., to be influenced). Inherently, a yin-yang perspective of human cognition emphasizes balance. That is, as one process becomes more salient, the other must become less salient, and vice-versa. Additionally, this view suggests that these processes are dynamic, waxing and waning with one another over time. Hence, cognitive processes likely differ in magnitude in different contexts, as a result of the unique person and environment interrelations. However, that said, theoretically, some factors may have greater impact than others, depending on whether those mechanisms elicit constrain (or "control").

For example, consider socioeconomic status (SES), which is a particularly pervasive "constraining" environmental factor. In extreme poverty, as a result of limited resources, individual agency is significantly diminished. (In high SES, those constraints are loosened and an opposite pattern may be seen). Similarly, individual characteristics may also be impactful. For example, severe mental illness (e.g., intellectual disability) may "constrain" individual ability to affect their environment (whereas an individual with mental giftedness, like extremely high intelligence, may have a greater impact on their environment). Thus, person (active) and environment (passive) exist in dynamic, ever-changing interactions.

In sum, each of these developmental theories are not unlike the dialectical view offered by the yin-yang perspective discussed in this paper. The human mind is influenced by both active and passive processes, not just one or the other. Similarly, human development occurs as the result of, not either/or, but both-and, the individual and environmental. These mechanisms are inextricably interwoven as bidirectional dual-process systems (Tabery, 2014; Gottlieb, 1991; Sameroff, 2010, 2020). Together, these varying perspectives converge on common theoretical ground – the nonmutual exclusivity of humans and our environment. To study either, one must consider the other and vice-versa, just like the Daoist yin and yang.

4. Discussion and Implications

Our paper addresses how the human mind functions from a dialectical Daoist yin-yang perspective; that is, as a dynamic and interconnected system (embracing two opposites) featuring both active and passive capacities. We posit that the categorical human mind and thinking may be seen as passive and receptive, given that they may be shaped by the sociocultural and ecological environment (i.e., a categorical mind that is malleable and can be influenced). However, additionally, the categorical human mind and thinking can also be active, constructive, and engaged. Both are necessary. Overall, a dialectical perspective on the human mind, like the Daoist yin-yang view, offers an important and unique contribution for understanding cognition as a dynamic "two-way street" (i.e., *both-*

and, rather than e*ither/or*) between person and context.

An important part of the functions and processes of the mind include human belief systems, which are shared by a group of people and are categorical in nature (see Darwin, 1959/2006; Dawkins, 2006; Durkheim, 1915/2008; Freud, 1913/1950; James, 1890/1983; Wundt, 1912/1916). Categorical thinking and beliefs, originate from our ancestral totemic psychology, which has connected humans with animals, plants, or other natural objects for millions of years (see Lee et al., 2020). Totemism provides the basis from which human belief systems have evolved and unifies ideas about the world with ideas of the self (Bateson, 2002), providing an overarching dialectical Daoist yin-yang framework of evolutionary processes (Lee et al., 2021).

The human mind creates categories (and infuses meaning into these categories), and they can be both active (positive) and passive (negative) in relation to environment or situation and afford specific processes, as means of garnering the ability to function, survive, and, ultimately, thrive. As situations and the environment change, categorical thinking changes and updates in accordance to these contextual variations. For function and utility, this is a natural process of the human mind in response to the external world. As the mind revises categorical representations of the world, the experiential landscape changes accordingly. It is equally important to address how the mind may affect the environment and experience (i.e., active mind), rather than simply focus on how the environment influences the mind (i.e., passive mind). However, the interplay between human (mind) and environment is always unfolding, both are inextricably interwoven as transactional, interdependent dual processes. Therefore, investigating these processes from the approach offered by the dialectical Daoist yin-yang view provides a fruitful direction for future theoretical and empirical endeavors.

5. Conclusion

A major component of the Daoist yin-yang view that we propose includes a dialectical framework on human cognition, emphasizing both active and passive processes. That is, not just "the mind being shaped by our environment and experience" (i.e., passive mind) but also "the influence of the mind to shape our environment and experience" (i.e., active mind). We refer to this ebb and flow between the mind and the environment as a mutually interactive and nonexclusive dual process. Put simply, our dialectical Daoist yin-yang perspective provides a "*both-and*" rather than an "*either/or*" lens on human cognition. Research and theory that focuses on these dual, interwoven processes of human thinking, rather than simply "one side of the coin," may be most fruitful for advancing our understanding of the complicated, interconnected functions underlying cognition.

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